

Tire Wear Assessment





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Part I: Overview of Business

John Deere's GCHPDC works with the development of the combine and the headers that go on them for harvesting. Deere started it's combine production at Harvester Works in East Moline, IL. The plant opened in 1912. In 1935, Deere accuired the No. 35 Hillside Combine from Caterpiller. As new ideas and concepts are introduced for the combine and the headers, the GCHPDC designs, builds, and tests the products before being put into production.

Part II: Job Specifics

- •Detail about the specific part of business related to the problem to be solved
- •Role of division, sample tasks/products
 In this sceniro, tires damaged by corn stalk
 stubble needed to be assessed and quantifiably
 measured. One of the ways the data will be used
 is to track the time it takes to render a tire ready
 for replacment under different conditions. (all
 related to stubble damage)

Part III: Introduce the Problem

Students will create a way to evaluate and assess the wear of a tire due to corn stalk stubble. The process needs to meet the following critera:

- Quantifyable
- Repeatable
- Able to be assessed in the field
- Assessed in a timely manner
- Results need to be evident at the time of the assessment

Part IV: Background

Businesses needed to invistigate the following questions, in addition to other spin-off ideas:

- What techniques or assessments are already in place by other companies?
- What tools might be used to evaluate a tire in general?

Students will need some background and termonology. Some of which will be given, some the students will be directed toward, and some the students will have to research on their own.

Part V: Business Solution

In this senerio, I started down the path of digitally scanning the tire. This way the worn tire could be compared to a new one. A lot of research and netwoking was done before it was deemed an unrealistic solution. In taking an example from a tire manufacture, and the input of several people, both inside and outside of Deere, I created a visual comparison chart to quickly assess a stubble damaged tire. Data was still collected for several aspects such as type of tire, size of combine, type of head, as well as specifics about the tire itself.

Part VI: Student Solutions

Regardless of whether the student's solution would succeed, provided that they were able to support their solution, the project will be looked at as a success. Students will need to create different theories to test. They will then need to compare them against each other to further strengthen their own solutions. A group of finalists will be peer selected. These finalists will be evaluated by a Deere representitive.